

What Is Claimed Is:

1. A method for manufacturing and/or repairing components, particularly blades and blade segments, for gas turbines, particularly for aircraft engines, by laser-powder build-up welding, wherein the laser-powder build-up welding is performed using at least one substructure, the material build-up by a powder material occurring in the process of laser-powder build-up welding in such a way that the or every substructure is at least in sections enclosed by the built-up powder material.
2. The method as recited in Claim 1, wherein a blade for a gas turbine is manufactured in that in laser-powder build-up welding a substructure made of a preferably dampening material is enclosed on all sides by the built-up powder material such that the substructure is subsequently positioned in the interior of the manufactured blade.
3. The method as recited in Claim 2, wherein a hollow blade for a gas turbine is manufactured in that the preferably dampening substructure preferably completely fills a hollow space of the manufactured hollow blade.
4. The method as recited in Claim 2 or 3, wherein the substructure is made of a metallic or ceramic felt.
5. The method as recited in Claim 1, wherein a gas turbine rotor having integral blading is manufactured in that a substructure made of forged, cast or powder-metallurgically manufactured material is enclosed by the built-up powder material in the process of laser-powder build-up welding.

6. The method as recited in Claim 5, wherein the substructure takes the form of a disk-shaped or ring-shaped rotor holder, rotor blades being built up on the rotor holder in the process of laser-powder build-up welding.
7. The method as recited in Claim 5, wherein, in addition to the substructure made of forged, cast or powder-metallurgically manufactured material forming the rotor holder, substructures are used for the rotor blades, the substructure for the rotor holder and the substructures for the rotor blades being enclosed by the built-up powder material in the process of laser-powder build-up welding.
8. The method as recited in Claim 7, wherein the substructure for the rotor holder is made of a different material than the substructures for the rotor blades.
9. The method as recited in Claim 7 or 8, wherein the substructure for the rotor holder is made of a metallic material and the substructures for the rotor blades are made of a ceramic material.
10. The method as recited in Claim 7, 8 or 9, wherein the substructure for the rotor holder is integrally joined with the substructures for the rotor blades in the process of laser-powder build-up welding.
11. A method for manufacturing and/or repairing components, particularly blades and blade segments, for gas turbines, particularly for aircraft engines, by laser-powder build-up welding, wherein the laser-powder build-up welding is carried out in multiple stages using different powder materials.

12. The method as recited in Claim 11, wherein different metal alloys are used as powder materials.